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FORESTRY IN HAWAII

PAPER READ AT THE ANNUAL MEETING OF THE HAWAIIAN SUGAR PLANTERS' ASSOCIATION, NOVEMBER 11, 1908.

By Ralph S. Hosmer, Superintendent of Forestry.

Once again it is my privilege to address the members of this association on the subject of forestry in Hawaii. The topic is by no means a new one on the program of your annual meetings and to some it may perhaps seem that everything necessary to a correct understanding of the subject has already been said. But there are good reasons why forestry should continue year after year to hold a place in your deliberations. Forestry is very decidedly a live issue in the Territory of Hawaii. It is a part of the general land question, than which there is no more important local problem. In Hawaii the relation between forestry and irrigation is peculiarly intimate. The continued success of the main industry of the Territory rests on the wise use of water. Over half of the fifty-odd sugar plantations are dependent on irrigation. The majority of the non-irrigated plantations also use large quantities of water for fluming cane or for the development of power. Because of the characteristic features of Hawaiian climate and topography—the heavy precipitation in the windward districts and the steep, short watersheds—it is essential that a forest cover be maintained permanently on the catchment-basins of the important streams. The conservation of the native forest has consequently a very direct bearing on the continued commercial prosperity of the Islands.

But the benefits of forestry do not cease with forest protection. The question of meeting the demand for wood and timber of the various classes required for local use, not to speak of the need for fuel in certain districts, becomes each year more and more pressing. It is the province of forestry to meet this demand through the introduction and establishment of trees that will in time supply the required products, be the need for posts, railroad ties, construction timber, or fuel. Then, too, on the side of windbreak, shelter-belt and, incidentally, of roadside and ornamental tree-planting, forestry touches the life of this community at many points.

Taken altogether, the problem of using the forests wisely and of making them do their full part constitutes one of the vital issues in the Territory of Hawaii. And because forestry is a vital, a living issue, it necessarily follows that not only do new problems constantly appear, but also that the old problems frequently take on new phases or develop relations not before appreciated.

As a body, the members of this association are brought into more direct relations with forest problems than is any other class of citizens in Hawaii. It is therefore pertinent that at your meetings the underlying principles of forestry should be stated often enough to be kept clearly in mind, and that the aims, objects and present condition of current work should be made known through frequent reports of progress. It is for these reasons that forestry holds its place on your program and comes up yearly as a subject for discussion and report.

During the year of 1908 the many-sided importance of forests has come to be recognized as never before in the history of the nation. Last May the President called together at the White House the governors of all the States of the Union to meet with him to discuss the conservation of the natural resources of the nation. This meeting was an event of far-reaching importance, for it marks the starting point of many movements that have to do with the wiser use, not only of the forests, but also of the other great natural sources of wealth—lands, minerals and waters. At the Governors' Conference, Hawaii was represented by the Governor of the Territory and by three "advisers," one of whom was the secretary of your association.

Following the conference of the governors, and as a direct result of that meeting, the governors of many of the States have appointed local conservation commissions to undertake an inventory of local resources and to assist in outlining a plan whereby the material resources of the nation as a whole can be used wisely, without waste or unnecessary loss. Governor Frear has appointed such a commission for this Territory and data are now being collected as the basis for a report that will contain specific recommendations. Many of the problems of conservation are essentially local in character and can only be solved by plans resulting from the detailed and comprehensive study of individual localities. Others are shared in common by this Territory and by the States and Territories on the mainland in a way that a better understanding of the whole subject is making more and more clear. In so far as Hawaii has taken part in this general movement it is unquestionably the most notable event in the history of forestry in the Territory during the past year.

With the widening in scope of the general outlook, the work of the Territorial Forest Service has gone steadily forward. Pursuing the policy adopted at its organization, five years ago, there have been set apart during the past year additional forest reserves amounting in area to 46,429 acres, of which 21,094 acres, or 45 per cent., is government land. This brings the total area of the Hawaiian forest reserves, now sixteen in number, up to 444,116 acres, of which 273,912 acres, or 61 per cent., belongs to the government. Forest reserve projects amounting to a total of 62,180 acres now only await formal action by the Board of Agriculture and Forestry and the Governor before being set apart. The most important forest reserve projects now pending are the proposed Kohala Mountain Forest Reserve, on Hawaii, and the proposed Lihue-Koloa and Kilauea-Aliomanu forest reserves, on Kauai. With the setting apart of the two last-named proposed reserves, the entire upland region in the central part of Kauai will be included within the forest reserve limits, making Kauai the first island on which the reserve system has been brought to completion.

Reference to the forest reserves brings up a matter in which this association by its influence and support may be of material assistance in strengthening the forest policy of the Territory. As has been frequently pointed out, the primary value of the Hawaiian forest lies in the protective influence it exerts on the watersheds of the streams needed for irrigation. Consequently practically all the forest reserves are essentially protection forests, which it is desirable should be held strictly intact. This means that the reserves must be protected from fire, from cattle and from other forms of trespass, and must be rid of wild goats and other destructive animals. So far as possible the boundaries of the reserves are made to follow natural barriers. But it often happens that there are stretches where fencing is required. In many cases a short stretch of fence, as, for example, between two gulches, will protect a large area. Often such stretches of fence should be on government land where it is impracticable to make fence building a condition of a government lease. To meet such contingencies and also to provide for the fencing jointly by the government and a given corporation of certain forest lines, there should be available an appropriation on which the Division of Forestry could draw. The amount need not be large. Five thousand dollars would go a long way in such work. But some money certainly should be available.

Two further matters of similar tenor should also be mentioned in this connection—the inauguration of a definite system of administration of the forest reserves by forest rangers, paid out of Territorial funds and responsible only to the Territorial forest officials; and, second, the appropriation of a fund, to be used only in case of emergency, from which could be paid expenses incurred in fighting forest fires. Not until the Hawaiian forest reserves are properly protected by the necessary fences, and adequately guarded against fire and trespass by a forest ranger force, backed by an appropriation for fighting fire, can the reserves do their full duty or be made of the greatest benefit to the Territory.

In saying this I do not forget the excellent work that has for many years been done by a number of the large plantation companies in carefully protecting their own forest lands, nor do I underestimate the strong sentiment in favor of forestry that has made possible what has already been accomplished by the Territorial officials. But looking to the future, as it is essentially the business of the Forester to do, I can not but urge most strongly that the members of this association, both collectively and as individuals, exert whatever influence they may have to secure from the coming Legislature appropriations sufficient for these purposes.

The second main line of forest work in Hawaii is tree-planting. It was in this way that both the government and the private owner began to practice forestry in this Territory. I do not need to remind you of the good work that has been done with increasing interest for the past thirty years. But I do want to bring home to you all the desirability—nay, the necessity—of doing more of it.

In Hawaii there are four main objects in tree-planting. First, commercial return, be the need for posts, railroad ties, construction timber or fuel; second, to provide shelter belts or wind breaks; third, roadside or ornamental planting; and, fourth, to extend and supplement the native forest in sections where the forest cover is unquestionably of value as a means of controlling the run-off and making available for use a larger percentage of the precipitation either on the surafce or as an underground supply.

Let me speak of the last-named case first. As a typical example I have in mind the Ewa basin on this island. Practically all the water for the plantations about Pearl Harbor comes from streams draining the Koolau Mountains or from artesian wells supplied by underground water from the same source. The rain that falls on the Waianae Mountains is important as far as it goes, but it is and always must be only a fraction of what results from the precipitation on the Koolau range. As it is now much of the rainfall on these mountains gets away as flood water, and escapes the duty it might be made to perform, either by helping to fill the high level irrigation ditches or as underground water to assist in keeping up the water table for a longer time in succeeding periods of drought. There is a belt above the cane fields and other agricultural land in the Ewa basin that it would pay to get back under forest for the good it would do in holding some of the water that now escapes. The planting up of this belt is a case where all three plantations could well get together and cooperate. Needless to say, the Division of Forestry would be glad to assist in any way possible in this or any other similar tree-planting project.

I hope that in time the Division of Forestry may have at its command sufficient funds to begin tree-planting again on government land. But at present I believe more good can be accomplished by expending what money is available in assisting private owners and in the way of plant introduction.

During the past year systematic relations of seed exchange have been established with over one hundred botanic gardens and other similar institutions in various parts of the world. By this means there have been received at the Government Nursery the seed of numerous trees and shrubs new to the Territory, some of which are sure to prove of very considerable economic value. To facilitate this work an experimental garden has been made in upper Makiki Valley where the plants started in the specially constructed germination houses at the nursery can be propagated for subsequent distribution. As soon as practicable the new trees and shrubs will be sent out to localities on the other islands where from situation, elevation and aspect they may be expected to do well. In addition to the experimental garden at Makiki, it is hoped to establish regular sub-gardens on the other Islands, which shall eventually become centers of distribution. One such station is about to be made at Kalaheo on Kauai where Mr. Walter D. McBryde has consented to cooperate with the Division of Forestry by overseeing the work. The great interest in tree planting that Mr. McBryde has already shown, both by his own planting and by what he has got his neighbors to do, argues well for the success of this undertaking. Eventually I hope that similar gardens for the systematic trial and propagation of valuable exotic plants may be established on each island.

Somewhat in line with this work is the experimental tree planting on the high slopes of Mauna Kea and Haleakala about to be undertaken with the cooperation of the Federal Forest Service. The object of these experiments is to try some of the conifers—pines, spruces and firs—of the temperate zone at elevations above the native Hawaiian forests, with the expectation of obtaining data that will lead eventually to the clothing of those now barren mountain slopes with a forest of valuable trees. An allotment of Forest Service funds made last year for this work was later withdrawn. This year the money ($2000) was again secured. As soon as the necessary formalities are complied with the work of actual planting will be begun.

I said a few moments ago that there were four main objects in tree planting in Hawaii and proceeded to outline what might be done under one of them. Let us now briefly consider planting for commercial returns, which is far and away the most important form of tree planting in Hawaii. Every sugar plantation in the islands needs a constant supply of wood and timber. Many must provide for a supply of fuel as well. The price of all kinds of lumber, even of the ordinary rough grades, has for some years been going steadily up. From the outlook on the mainland it is evident that a further rise is to be expected. With the increasing demand for all forms of wood and the steadily diminishing supply the outlook cannot be otherwise. In his address before this association at its annual meeting last year, Mr. Thurston brought forward facts and figures that cannot be disputed. The situation today is that we are one year nearer the time when the pressure of a wood famine will begin keenly to be felt. The only remedy is to plant trees and to begin at once.

Practically every sugar plantation in the islands has areas of waste land that is good for no other purpose, but which will serve excellently for producing wood of the kinds specially adapted for the needs of that particular plantation.

The Division of Forestry has the necessary information as to what kinds of trees to plant to obtain certain results under varying conditions of exposure, aspect and elevation. This information is free and to be had for the asking.

Further, at the bare cost of his traveling expenses, Mr. David Haughs, the forest nurseryman of the Division of Forestry, an experienced tree planter, long familiar with island conditions, will visit any locality and prepare a regular planting plan, showing in detail just what to plant and where and how to go about the work.

The cost of planting per acre varies of course with the locality. But there is probably not a plantation in the Territory where the planting of certain gulch sides or other patches of waste land with trees would not be a good investment.

A word on the personal side. Someone may object that tree-planting is a thankless job for the man who does the work, in that someone else enjoys the returns. Here in Hawaii this is less true than it is elsewhere, for our trees grow rapidly and usually one has the advantage of being able to reap what he himself has sown. But supposing he does not. The members of this association are broad-gauge men who should be glad to do something for the future welfare of the properties in which they are now interested, if not for the good of the country. And again, what better memorial can a man leave than a grove of thrifty, well-grown, valuable trees? Think a moment of the tree-planting that has been done in your district, and ten to one you will find that some one man's name is associated with it.

According to a list that I made out last spring, the following plantations are now actively engaged in tree-planting, on a larger or smaller scale:

Kauai—McBryde Sugar Company, Eleele; Koloa Sugar Company, Koloa; Grove Farm Palntation, Lihue; Lihue Plantation Company, Lihue; Makee Sugar Company, Kealia.

Oahu—Waianae Company, Waianae; Kahuku Plantation Company, Kahuku.

Maui — Wailuku Sugar Company, Wailuku; Hawaiian Commercial and Sugar Company, Puunene; Maui Agricultural Company, Paia.

Hawaii — Kohala Sugar Company, Kohala; Halawa Plantation Company, Kohala; Paauhau Sugar Plantation Company, Hamakua; Hamakua Mill Company, Paauilo; Hakalau Plantation Company, Hakalau; Pepeekeo Sugar Company, Pepeekeo; Honomu Sugar Company, Honomu; Hawaiian Agricultural Company, Pahala.

This is a good list and means that the men who are responsible for the work are level-headed and far-sighted individuals. But the list should be much longer. It ought to be made a sort of roll of honor on which the names of all the plantations should appear. Why should this not happen before the next Planters' Association meeting? If you gentlemen will take the matter to heart, it can be done. We are all interested in the continued prosperity of Hawaii nei. Will you not in this way help the Territory while you help yourselves by providing for a wood supply in future years?

LIVED CRUSOE LIFE ON ANTIPODES ISLANDS

A strange story reached Queenstown, recently from Lyttelton, New Zealand, of the adventures of Captain Noel and twenty-one members of the crew of the French barque President Felix Faure, which was driven on the Antipodes Islands, south of New Zealand.

The men landed on one of the islands, with no clothes save those they had on, and after enduring great privations for seven weeks they were rescued by the British warship Pegasus.

Captain Noel, relating the story of the castaways said that fortunately for them the New Zealand government keep a quantity of provisions on the island in case of emergency. As week succeeded week, however, the rations had to be reduced to such an extent that the men became ravenous for food.

Out of the wreckage washed ashore nails were obtained, and these were made into fish-hooks to catch fish. Blades of pen-knives were fashioned into needles, hair-combs were made from bush-thorns, and altogether the men led a regular Crusoe life. On several occasions messages written in pencil were fastened to the neck of an albatross in the hope that the birds might be captured and thus secure assistance for the castaways.

One of these messages was being written, in which the men said all hope was abandoned, when the Pegasus was sighted and took off the crew, who were almost mad with hunger.

Taxes will not be received on the morning of November 16 without the penalty.

FROM THE SHADOW OF PRISON WALLS COME MITES FOR NUNS

Sunday forenoon, during religious services held under the auspices of the Roman Catholic church, Father Valentin referred to the grand and unselfish work done by Sister Marianne and three other nuns who had labored among the lepers at Kalaupapa for a quarter of a century. He told of the subscriptions toward a fund for these noble women which would enable them to live in comfort during their declining days, and called attention to the lesson to be learned from such devotion to the cause of humanity.

After Father Valentin's talk a prisoner spoke about the Sisters and said that he would like to add to the fund. In the end it was made known to the priest and the prison authorities that there were many men moved by the same impulse who desired to give a mite.

Probably no place in the world except an almshouse presents such a spectacle of poverty as a prison. The inmates are poor by decree. Hardly a nickel is permitted them to carry about on their persons. Whatever money is due them, as allowance from friends or relatives, never touches their hands, but is kept for them by the prison authorities. Occasionally a trifle of money comes to them through their industry in fashioning watch fobs from kukui nuts, or making fancy watch chains from horse hair, or making trinkets out of bone, etc.

So the determination of these men to add to the fund being raised for the nuns is worthy of more than passing comment. It is a real sacrifice on their part. But they ask for a chance and a cigar box with the lid nailed down and a slit cut in the cover will be the mite-box and into this the prisoners deposited their share of the fund. Maybe the largest coin put in that rough box might not have been more than a quarter, but the majority of coins were nickels. The amount raised by the prisoners was $16.